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## SCIENTIFIC NOTES AND NEWS

THE Royal Society has awarded the Copley medal to Dr. George W. Hill, of West Nyack, N. Y.

PROFESSOR THEODORE W. RICHARDS, of Harvard University, has been elected to corresponding membership in the Royal Prussian Academy of Sciences of Berlin.

SIR JOSEPH LARMOR, Professor Felix Klein and Professor H. Poincaré have been elected honorary members of the Calcutta Mathematical Society.

LIEUTENANT E. H. SHACKLETON, the antarctic explorer, has been created a knight by King Edward.

THE first fellowship established under the will of the late Dr. Sorby, has been awarded to Dr. Jocelyn F. Thorpe, F.R.S., who will work on the chemistry of the imino-compounds.

ARTHUR M. BANTA, Ph.D. (Harvard), has resigned the professorship of biology at Marietta College to accept a position on the staff of the Station for Experimental Evolution at Cold Spring Harbor, N. Y. F. H. Kreckler, Ph.D. (Johns Hopkins), has been elected to the position at Marietta College.

MR. TRYGVE JENSEN, a graduate of the department of electrical engineering of the University of Illinois, has recently been awarded the prize offered by the Edison Medal Committee of the American Institute of Electrical Engineers. The title of Mr. Jensen's thesis is "The Operation of a 100,000-volt Transformer." The prize consists of a diploma and a cash award of \$150.

THE University of Kansas sent two collecting parties into the field last summer. One, consisting of Professors C. E. McClung, W. J. Baumgartner, R. L. Moodie, W. R. Robertson with Mr. Ward Cook, devoted itself to obtaining from the waters of Puget Sound an extensive collection of specimens for class use. These will be shared with the high schools and colleges of Kansas in the endeavor to secure as good teaching as possible. The other party, consisting of Mr. H. T. Martin and two assistants, secured a large and valuable series of fish specimens from the Niobrara of Kansas.

Several new forms were obtained and much good material for further comparative study of known species.

THE program of the meeting of the American Philosophical Society on November 19 consists of a paper, by Professor C. L. Doolittle, on Halley's comet, illustrated with lantern views.

At a meeting of the American Antiquarian Society, held at Worcester, October 20, Dr. W. C. Farabee, of Harvard University, presented a paper on "Some Customs of the Macheyenga Indians of the Upper Amazon."

DR. WILLIAM R. BROOKS, director of Smith Observatory and professor of astronomy at Hobart College, delivered his illustrated lecture on "The Wonders of the Heaven," before the Buffalo Society of Natural Sciences, on November 5.

PROFESSOR JOSEPH JASTROW, of the department of psychology of the University of Wisconsin, has been appointed by the trustees of Columbia University to give graduate courses in psychology in that institution during the second semester of this year, and to deliver a series of eight public lectures.

SIR AUGUSTUS WALLER delivered a series of lectures on the Hitchcock foundation at the University of California, beginning on September 18. The subject of the lectures was "Physiology the Servant of Medicine."

PROFESSOR FREDERIC S. LEE, of Columbia University, has recently given the following addresses: On October 22, at New Haven and Hartford, before the section on Hygiene of the Connecticut State Teachers' Association on "The Nature of Fatigue"; on November 3, at Burlington, at the opening of the fifty-seventh session of the College of Medicine of the University of Vermont, on "A Defense of Sanity," and on November 12, an address to the graduating class of the Training School for Nurses of the New York Infirmary for Women and Children.

BEGINNING Friday, November 12, Professor S. A. Mitchell, of Columbia University, gives a course of six lectures on "Modern Astronomy" in Philadelphia, for the University

Extension Society. The subjects are: (1) "The Birth of the Moon," (2) "The Light and Heat of the Sun," (3) "Astronomy at the North Pole," (4) "Eclipses of the Sun," (5) "Halley's Comet," (6) "Is Mars Inhabited?"

At the inauguration of the new rooms of the Royal Society of Edinburgh, November 8, Sir William Turner, president of the society, delivered the address, which was followed by a reception.

THE eighty-fourth Christmas course of juvenile lectures, founded at the Royal Institution in 1826 by Michael Faraday, will be delivered this year by Mr. W. Duddell, F.R.S. His subject is "Modern Electricity," and the first lecture will be given on December 28.

THERE will be a U. S. Civil Service examination on December 15, to fill the position of entomologist in the Bureau of Science at Manila, with a salary of \$1,600.

By an arrangement with the *Centrale Stelle*, Kiel, the Lowell Observatory has been made the telegraphic distributing center for planetary news in America.

THE American Anthropological Association and the American Folk-Lore Society will meet in affiliation with Section H of the American Association for the Advancement of Science at the meeting to be held in Boston, December 27, 1909, to January 1, 1910. Members of these two societies and of Section H, who contemplate presenting papers at this joint meeting of anthropologists should send immediately titles and abstracts of papers to Dr. George Grant MacCurdy, Yale University, New Haven, Conn., who is responsible for the combined program.

MEMBERS of the American Association for the Advancement of Science who are affiliated with Section D, Mechanical Science and Engineering, are invited to contribute to the program of the section for the Boston meeting. Those intending to do so are requested to so advise the secretary, Professor G. W. Bissell, East Lansing, Mich.

THE twenty-seventh stated meeting of the American Ornithologists' Union will be held

at the American Museum of Natural History in New York City, beginning on the evening of December 6. The evening session will be for the election of officers and members, and for the transaction of routine business. Tuesday and the following days of the session will be devoted to the presentation and discussion of scientific papers and will be open to the public. Information regarding the meeting can be had by addressing the secretary, Mr. John H. Sage, Portland, Conn.

THE annual meeting of the American Nature-Study Society will be held in Boston on January 1, 1910. The topic for discussion is the course in nature-study for elementary schools. Both the biological and the inorganic aspects of nature-study will be considered.

THE American Society of Animal Nutrition will meet at Chicago on November 27, in connection with the International Live-stock Exposition. Dr. H. P. Armsby, of the Pennsylvania State College, will give the presidential address. Professor H. R. Smith, of the University of Nebraska, will present a paper on "The Value of Feeding Experiments to the Farmer" and the reports of several committees will be presented.

THE ninth meeting of the Central Association of Science and Mathematics Teachers will be held at the University of Chicago on November 26 and 27. The work of this association is mainly concerned with the problems of the secondary schools in teaching science and mathematics. It developed the correlation of secondary school mathematics and originated the so-called "new movement" among physics teachers, and is now engaged in considering the fundamentals of the several sciences as presented in secondary schools. At the general session on November 26, Professor Chamberlin, of the University of Chicago, will give some account of his recent studies in China in an address entitled "Certain Features of China, Physical and Humanistic." Principal James E. Armstrong, of the Englewood High School, Chicago, will give some conclusions based upon four years' experience with segregated classes in high school, in an address, "The Advantages of Sex Segregation in High

School." Among other educators on the program are: Professor Richard E. Dodge, of Teachers College, Columbia University; Professor A. A. Michelson, University of Chicago; Dr. Norman A. Du Bois, Case School of Science, Cleveland; Professor Chas. R. Mann, University of Chicago; Dr. J. A. Drushel, Teachers College, St. Louis; Professor J. W. A. Young, University of Chicago; Professor Fred. T. Charles, University of Illinois.

At the invitation of the staff of the department of natural history of the College of the City of New York, twenty-two working biologists from the various laboratories of New York dined in the faculty dining rooms of the college on Tuesday evening, November 9. After the dinner, which was served by the college caterer, the men inspected the biological laboratories of the department. The following institutions were represented: the Rockefeller Institute, The College of Physicians and Surgeons, The New York Hospital, The College of Pharmacy, Cornell University Medical College, Columbia University and Barnard College.

A RUBBER pilot-balloon sent up on October 8 from Blue Hill Observatory to determine the air currents, was visible for one hour and ten minutes and in that time rose to a height of about 18,000 meters, or  $11\frac{1}{2}$  miles. Probably this is the greatest height at which atmospheric movement has been observed in the United States, since the highest clouds measured at Blue Hill do not exceed 15,000 meters, or  $9\frac{1}{2}$  miles.

THE magnetic survey yacht *Carnegie* had many distinguished visitors while at Falmouth, England, among them being the Earl of Plymouth, the Honorable W. Peel, Sir Arthur Rücker and Professor Arthur Schuster. The latter two gentlemen made official visits as members of the advisory board of the department of Terrestrial Magnetism of the Carnegie Institution of Washington. The magnetic data already secured on board the *Carnegie* have been communicated to the principal hydrographic offices and were presented by General M. Rykatschew before the Russian Geographic Society, St. Petersburg,

on October 27. The director, Dr. L. A. Bauer, returned to Washington on November 11. The *Carnegie* left Falmouth under the command of Mr. W. J. Peters, on November 8, bound for Madeira and Bermuda.

It will be remembered that the late Dr. H. C. Sorby, F.R.S., of Sheffield, bequeathed a sum of £15,000 to the Royal Society of London to be held in trust for the establishment of a professorship or fellowship for original scientific research, the testator expressly desiring the professorship or fellowship thus founded to be associated with the University of Sheffield. Accepting this trust, the council of the Royal Society appointed a committee to confer with representatives of the University of Sheffield with the view of drawing up a scheme for giving effect to the intentions of Dr. Sorby's will. A scheme, prepared by this committee for the establishment of a "Sorby Fellowship for Scientific Research" to be associated with the University of Sheffield, has now been approved and adopted by the council of the Royal Society, and by the senate and council of the University of Sheffield. The fellow will be required to carry out his research, when possible, in one of the laboratories of the University of Sheffield, and provision is made under the regulations for the setting aside of a sum not exceeding £50 a year to form an apparatus fund, from which grants may be made from time to time to the fellow for the purchase of special apparatus and material required in his research. The stipend of the Sorby Research Fellow will probably be about £500 per annum.

THE geological department of the University of Wisconsin has recently completed a relief map of the state of Illinois for the University of Illinois, on a scale of five miles to the inch horizontally and 1,320 feet to the inch vertically. The low relief of the prairie region between the Mississippi, the Ohio and Lake Michigan, with the contrasting sharply cut stream valleys and gorges in the lead and zinc district in the northwest and the Ozark plateau extension in the extreme south are well shown on the map. The topography is based on the contour maps prepared for the

Chicago World's Fair and the topographic maps of the United States Geological Survey and the Mississippi River commission. Most of the geology is from the geological map prepared for the Illinois Geological Survey.

AFTER making 15,000 tests on 50 railway bridges on the lines of eight different railroad systems of the country, Dean F. E. Turneure, of the college of engineering of the University of Wisconsin, is now compiling data which it is expected will eliminate the element of guess work in allowing for speed strain in bridge design. Heretofore there have been few actual data on the comparative effects of speeds on the different parts of bridges, so that allowance for such strain had to be made largely by guess. A few experiments were made with machinery imported from Germany, including those of Dean Turneure in 1907 on the St. Paul road, but the difficulty and expense prevented further investigation until Dean Turneure invented a machine of his own for the work. This is an electrical instrument which makes an autographic record of every slightest bending, shortening or stretching of the part of the bridge to which it is attached, when a train is crossing the bridge. Twelve duplicates of the machine were made in the shops of the college of engineering, and used simultaneously on different parts of the bridge, giving accurate data for comparison. Since it seems likely that not all of the fund of \$9,000 subscribed by American railroads to defray the expense of the investigation will be used in this series of tests, it is planned to start a second series of experiments involving a different feature.

NICKEL and cobalt are not produced in large quantities in the United States, the domestic output of nickel in 1908 coming from only two or three places and that of cobalt from only one place. Both metals are produced by a lead company at Fredericktown, Mo., and some nickel ore was shipped from Bunkerville, Nev. Other nickel deposits are known in various parts of the country, but no work of importance was done on them during 1908. Some nickel salts were made at a New Jersey refinery from electrolyte solutions ob-

tained in the refining of copper. In copper refining by electrolysis nickel contained in the raw copper anodes goes into solution in the electrolyte, and unless the solutions are changed before the amount of nickel reaches 1 per cent. of the solution, nickel is deposited with the copper. It is said that this causes the copper to lose some of its toughness. Before this factor in electrolytic refining was found to be serious it was impossible to make electrolytic copper equal to the best Lake Superior brands, but the refiners say that since this discovery they can make electrolytic copper equal to any other, and even superior to some in electroconductivity.

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#### UNIVERSITY AND EDUCATIONAL NEWS

THE provisions of the will of Mr. John Stewart Kennedy have not been officially announced, and the reports which have been published are not exactly correct. Mr. Kennedy bequeathed one half of his vast estate to public purposes. The greater part of this estate is to be divided into sixty-four parts, and the bequests have been made on the basis of these parts. Thus to Columbia University and the other institutions receiving the largest bequests are devised three of the parts, not \$2,225,000, as has been stated. The announcement was based on the supposition that the value of these parts would be \$750,000, and it is believed that this is a very conservative estimate. If certain of the heirs die without issue, the property bequeathed to them is to be divided into four equal parts to be given, respectively, to Columbia University, the New York Public Library, the Metropolitan Museum of Art and the Presbyterian Hospital of New York City.

It is reported by cablegram that Mrs. Francis Speyer has bequeathed more than \$8,000,000 to public purposes. The bequests include \$1,000,000 to the Frankfort Academy of Social and Commercial Science, and \$1,000,000 for the furtherance of the research into the subject of cancer and lupus.

MR. WILLIAM D. SLOANE has given \$150,000 to the College of Physicians and Surgeons of